

a plurality of plugs shaped to extend over a selected aperture, wherein said

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plugs may be placed over selected apertures to control the flow of air  
through the control cap,

wherein air exhausted from said cabinet is directed outwardly through said

apertures not covered with said plugs.

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34. (First Amended) An exhaust control cap for a biological safety cabinet having  
an exhaust port and an associated exhaust control system, said control cap comprising:

an enclosure for said exhaust port, said enclosure having sides projecting

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above the top of said cabinet, said enclosure being coupled with said  
exhaust control system;

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an apertured plate coupled with said enclosure and intersecting the flow of  
air; and

a plurality of plugs shaped to extend over a selected aperture within said  
apertured plate, wherein said plugs may be placed over selected  
apertures to control the flow of air through the control cap,

wherein said apertured plate controls the flow of air exhausted from the  
cabinet and into said exhaust control system.

#### Remarks

Claims 1, 3, 5, 6, 11, 13, 15, 21, 24-26, 30 and 34 have been amended, and claims  
2, 4, 7-10, 22-23, 33 and 36 have been canceled. Therefore, claims 1, 3, 5-6, 11-21, 24-32 and 34-35  
remain in the application for consideration by the examiner.

Claims 5, 6, 24 and 25 have been amended to change claim dependency.

Claims 1-29 stand rejected under 35 USC 112, second paragraph based upon the recitation "said blower being . . . work area" in claims 1, 7, 11, 15, 21 and 26. Claim 7 has been canceled. Each of the remaining independent claims has been amended to remove the phrase objected to by the examiner. Applicants respectfully submit that these amendments overcome the section 112 rejection. The section 112 rejection was the only rejection made for claims 26-29. Thus, Applicants respectfully submit that claims 26-29 are now in condition for allowance.

Claim 2 stands rejected based upon section 112, second paragraph. Claim 2 has been canceled, thus mooting the rejection thereof. Similarly, claim 4 stands rejected based upon section 112, second paragraph. Claim 4 has been canceled, thus mooting the rejection thereof. The substantive limitations of claims 2 and 4 have been incorporated into claim 1, as is discussed below.

Claim 11 also stands rejected under section 112, second paragraph. Applicants have made limitations to claim 11 to clarify the position of the pressure gauge. Therefore, Applicants respectfully submit that the section 112 rejection of claim 11 has been overcome.

Claim 1 stands rejected under section 103(a) as being unpatentable over Landy or Smith et al. in view of the European patent. Claim 1 has been amended to include the limitations of claims 2 and 4. The only rejection of claim 4 was based upon the rejection under section 112 of claim 1, which has been overcome via the amendments made to independent claim 1. Therefore, Applicants respectfully submit that claim 1 is now in condition for allowance. Because claims 3, 5 and 6 depend from claim 1, they are believed to be in condition for allowance as well.

Claim 11 stands rejected under section 103(a) as being unpatentable over Tipton in view of Fowler, Jr. Fowler, Jr. is cited as providing a pressure gauge. Claim 11 has been amended to clarify the positioning of the pressure gauge in Applicants' invention. The claim now requires the work area to be defined by inner walls, with the pressure gauge mounted on one of the inner walls. In this arrangement, any leaks that may occur in the pressure gauge will be contained within the work area. This is in contrast to the Fowler, Jr. reference, that mounts the pressure gauge on the outside wall of the device, such that any leaks in the pressure gauge, or the mounting thereof, may result in contaminated air leaving the work area. In view of the clarifying amendments made to claim 11, Applicants respectfully submit that claim 11 is now in condition for allowance. Because claims 12-14 depend from claim 11, they are believed to be in condition for allowance as well.

Claim 15 stands rejected under section 102(b) as being anticipated by Arhex et al. Applicants respectfully submit that Arhex et al. does not teach each and every limitation of claim 15. Applicants also respectfully submit that claim 15 would not have been obvious in light of Arhex or any of the other references cited in the Office action. Claim 15 contains a limitation calling for "a perforated towel catch extending between a lower-most edge of said baffle and said rear panel, said towel catch being closer to said bottom surface at said rear panel than at said baffle." Applicants respectfully submit that Arhex et al. is completely missing this limitation of a towel catch, located and positioned as required by claim 15. Therefore, Applicants respectfully submit that claim 15 is in condition for allowance. Because claims 16-20 depend from claim 15, they are believed to be in condition for allowance as well.

Claim 21 also stands rejected under section 102(b) as being anticipated by Arhex et al. Claim 21 has been amended to incorporate the limitations of claims 22 and 23. The only rejection of claim 23 was based upon the rejection under section 112 of claim 21, which has been overcome via the amendments made to independent claim 21, as discussed above. Therefore, Applicants respectfully submit that claim 21 is now in condition for allowance. Because claims 24 and 25 depend from claim 21, they are believed to be in condition for allowance as well.

Claim 30 stands rejected under section 102(b) as being anticipated by Smith et al. Claim 33 was found by the examiner to contain allowable subject matter. The limitations of claim 33 have been incorporated into claim 30. Therefore, Applicants respectfully submit that claim 30 is now in condition for allowance. Because claims 31 and 32 depend from claim 30, they are believed to be in condition for allowance as well.

Claim 34 stands rejected under section 103(a) as being unpatentable over Smith et al. in view of Truhan. Claim 36 was found by the examiner to contain allowable subject matter. The limitations of claim 36 have been incorporated into claim 34. Therefore, Applicants respectfully submit that claim 34 is in condition for allowance. Because claim 35 depends from claim 34, it is believed to be in condition for allowance as well.

### Conclusion

Claims 1, 3, 5-6, 11-21, 24-32 and 34-35 are now believed to be in condition for allowance based upon the above-amendment and remarks. Such favorable action is requested. However, if the examiner believes that any issues remain, please feel free to contact the undersigned

at the telephone number below. Notice of allowance of claims 1, 3, 5-6, 11-21, 24-32 and 34-35 is earnestly solicited.

Respectfully submitted,



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**Version With Markings to Show Changes Made**

1. (First Amended) A biological safety cabinet, comprising:
  - a frame defining a protected work area, said work area being enclosed on all but a front face, said work area including a pair of spaced interior side walls;
  - a sash coupled to said frame, said sash at least partially enclosing the open front face of said work area;
  - a blower coupled to said frame generally above said work area, said blower being adapted to circulate air through said work area [to make said work area a negative pressure area so that harmful materials are confined within said work area]; and
  - a sash grill coupled to said frame generally below said sash, said sash grill having a curved top surface, a plurality of first perforations through said top surface, and a plurality of second perforations through said top surface, said second perforations being located generally adjacent each of said side walls, said first and second perforations allowing air to flow through said sash grill,wherein the curved sash grill promotes smooth air flow into said work area, thereby better containing any harmful materials.
3. (First Amended) The biological safety cabinet of claim 1, [wherein said work area includes a pair of spaced interior side walls,] the safety cabinet further comprising a pair of

spaced side trim panels, one of said trim panels being located adjacent each of said side walls of said work area, said side trim panels forming an obtuse angle with respect to said side walls thereby promoting smooth flow of room air into said work area..

5. (First Amended) The biological safety cabinet of claim [2]1, wherein said sash has a handle coupled thereto along the lower-most surface thereof, said handle having a top surface adjacent said sash, a rear surface facing said work area and a front surface extending between the top and rear surfaces, said front surface of said handle being oriented at an acute angle relative to said rear surface to allow air entering said work area along said front surface to more smoothly interface with the air traveling downwardly along said rear surface.

6. (First Amended) The biological safety cabinet of claim [2]1, wherein said sash has a handle coupled thereto along the lower-most surface thereof, said handle having a top surface adjacent said sash, a rear surface facing said work area and a front angled surface extending between the top and rear surfaces, said angled front surface allowing air entering said work area along said front surface to more smoothly interface with the air traveling downwardly along said rear surface.

11. (First Amended) A biological safety cabinet, comprising:  
a frame, said frame having outer walls and inner walls, said inner walls being spaced from said outer walls, said inner walls defining a protected work area, said work area being enclosed on all but a front face;  
a sash coupled to said frame, said sash at least partially enclosing the front face of said work area;

a blower coupled to said frame generally above said work area, said blower being adapted to circulate air through said work area [to make said work area a negative pressure area so that harmful materials are confined therewithin]; and

a pressure gauge mounted on one of said inner walls and located within said work area, said pressure gauge adapted to measure a positive pressure environment created by said blower above said work area, wherein any leaks in said pressure gauge will be contained within said work area.

13. (First Amended) The biological safety cabinet of claim 12, wherein [said work area includes] one of said inner walls is a rear baffle plate defining the rear wall of said work area and wherein said pressure gauge is mounted in said baffle plate.

15. (First Amended) A biological safety cabinet, comprising:

a frame defining a protected work area enclosed on all but a front face, said work area including a rear baffle, opposing side walls, a ceiling and a bottom surface, said baffle being spaced above said bottom surface;

a sash coupled to said frame, said sash at least partially enclosing the front face of said work area;

a blower coupled to said frame above said ceiling of said work area, said blower being adapted to circulate air through said work area [to make

said work area a negative pressure area so that harmful materials are confined within said work area];

a rear panel located behind said baffle of said work area, said rear panel spaced from said baffle to create a void through which air can flow; and

a perforated towel catch extending between a lower-most edge of said baffle and said rear panel, said towel catch being closer to said bottom surface at said rear panel than at said baffle,

wherein said towel catch may be visually inspected for blockage through said open front face of the safety cabinet.

21. (First Amended) A biological safety cabinet, comprising:

a frame defining a protected work area, said work area being enclosed on all but a front face;

a sash coupled to said frame, said sash at least partially enclosing the front face of said work area, said sash being moveable to allow access to said work area;

a blower coupled to said frame above said work area, said blower being adapted to circulate air through said work area [to make said work area a negative pressure area so that harmful materials are confined];

[and]

a sash pocket coupled to the exterior of said frame generally above said work area and above said sash, said sash pocket being enclosed on all but a lower end thereof, said sash extending into said lower end of said sash pocket[,];

a front panel coupled to said frame above said work area and in front of said blower, said sash pocket being coupled to said front panel, said sash being spaced outwardly away from said front panel, and wherein said front panel includes a plurality of holes extending therethrough above said work area, said holes providing fluid communication between the exterior of the safety cabinet and the interior thereof,

wherein said sash pocket provides a protective housing for said sash when said sash is moved upwardly away from said work area.

24. (First Amended) The biological safety cabinet of claim [23]21, wherein said sash is spaced away from said work area, allowing fluid communication between said work area and the exterior of the safety cabinet, the cabinet further comprising a deflector plate coupled to said frame at the upper end of said work area, said deflector plate extending towards said sash and being spaced away therefrom, said deflector plate operating to maintain a uniform negative pressure in the area of said holes thereby insuring a uniform flow of air into said holes.

25. (First Amended) The biological safety cabinet of claim [22]24, further comprising a front cover coupled to said frame, said cover extending over said sash pocket and said front panel to remove said sash pocket and said front panel from view.

26. (First Amended) A biological safety cabinet, comprising:

a frame defining a protected work area enclosed on all but a front face, said work area having a back wall, opposing side walls, a ceiling and a bottom surface;

a blower coupled to said frame above said ceiling of said work area, said blower being adapted to circulate air through said work area [to make said work area a negative pressure area so that harmful materials are confined];

a supply filter forming said ceiling of said work area,

said blower directing air through said supply filter, said supply filter being adapted to remove contaminants from the air flowing there through;

a plenum box located between said supply filter and said blower; and

a distribution baffle located within said plenum box and extending generally across said plenum box, said distribution baffle being mounted with a first end located adjacent an output region of said blower and being angled upwardly as said baffle extends away from said blower,

wherein said distribution baffle operates to evenly distribute the air flowing from said blower across said supply filter.

30. (First Amended) An exhaust control cap for a biological safety cabinet having an exhaust port, said control cap comprising:

an enclosure for said exhaust port, said enclosure having sides projecting

above the top of said cabinet;

at least one side panel presenting a plurality of apertures therein; [and]

a top panel extending over said sides and covering the top of said

enclosure[,]; and

a plurality of plugs shaped to extend over a selected aperture, wherein said

plugs may be placed over selected apertures to control the flow of air

through the control cap,

wherein air exhausted from said cabinet is directed outwardly through said

apertures not covered with said plugs.

34. (First Amended) An exhaust control cap for a biological safety cabinet having an exhaust port and an associated exhaust control system, said control cap comprising:

an enclosure for said exhaust port, said enclosure having sides projecting

above the top of said cabinet, said enclosure being coupled with said

exhaust control system;

an apertured plate coupled with said enclosure and intersecting the flow of

air[,]; and

a plurality of plugs shaped to extend over a selected aperture within said

apertured plate, wherein said plugs may be placed over selected

apertures to control the flow of air through the control cap,

wherein said apertured plate controls the flow of air exhausted from the cabinet and into said exhaust control system.